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### 3. Applications of very high resolution satellite imagery to forest ecosystem assessment

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**Abstract.** The latest generation of commercial satellite sensors provides image products with very high geometric resolution (VHR). VHR images have been extensively exploited in the last years for monitoring forest ecosystem conditions. This chapter presents a review of applications in several fields: forest assessment, forest mapping, detection of stand structural attributes, forest disturbances, estimation of forest biomass and other biophysical variables. Current scientific knowledge under each issue is discussed and most promising classification techniques and approaches are outlined.

#### 1. Introduction

Many research organizations and forest agencies currently use geospatial technology such as remote sensing and Geographic Information Systems (GIS)

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